

AD-A126 061

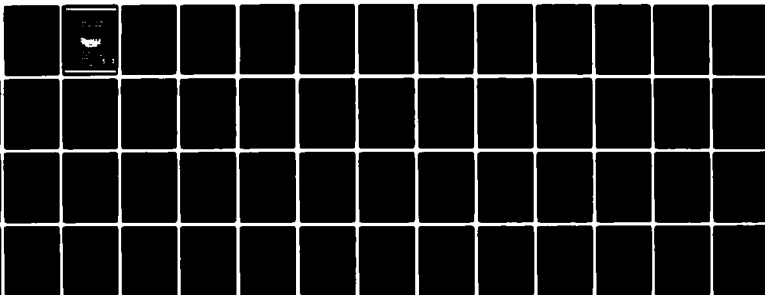
THE IMPACT OF DRUG ABUSE ON TANK CREW COHESION(U)
WALTER REED ARMY INST OF RESEARCH WASHINGTON DC
R SMITH AUG 82 WRAIR-NP-83-001

1/1

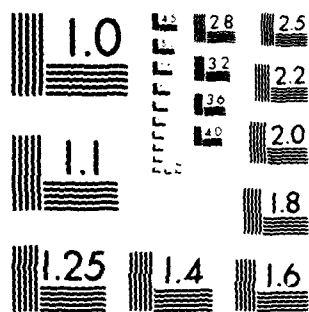
UNCLASSIFIED

F/G 6/5

NL



END
DATE
FILMED
4-83
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

12

ADA 126061

The Impact of Drug Use on Tank Crew Cohesion



DIVISION OF NEUROPSYCHIATRY

Walter Reed Army Institute of Research

Washington, D.C. 20307

DTIC FILE COPY

1983

**DTIC
ELECTE**

MAR 25 1983

E

This document has been approved
for public release and sale; its
distribution is unlimited.

WRAIR-NP-83-001

THE IMPACT OF DRUG ABUSE ON TANK CREW COHESION

Ron Smith, Ed.D., CPT, MSC
Division of Neuropsychiatry

August 1982

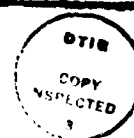
Technical Report

Approved for Public Release; Distribution Unlimited

Walter Reed Army Institute of Research
Walter Reed Army Medical Center
Washington, D.C. 20012

HQ, US Army Medical Research &
Development Command
Fort Detrick,
Frederick, MD 21701

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	



This material has been reviewed by the Walter Reed Army Institute of Research, and there is no objection to its publication. The views of the author do not purport to reflect the position of the Department of the Army or the Department of Defense, (para 4-3, AR 360-5). 29 November 1982.

TABLE OF CONTENTS

	<u>Page</u>
Summary	1
Objectives	2
Military Relevance	2
Methodology	6
Major Findings	8
Results Summary and Discussion	21
Recommendations for Future Research	25
References	27
Appendices	28
Tables	35

SUMMARY

This medical research project was undertaken to validate previous observations of drug use patterns as detractors from trust, confidence and commitment among soldiers. Results indicate differences in drug use patterns exist among crew members as well as differences in perceptions about using and non-using crew members. Five general conclusions can be drawn. First of all, cohesion is not a unitary concept. It has a task-related and a social-related dimension that are inter-related. Secondly, tank crews are composed of two distinct groups - Tank Commanders and crewmen (Drivers, Loaders, Gunners). These two groups differ in demography, drug use pattern and in their responses to the cohesion questions. Third, the more responsible and important the incumbent's duty position within a crew, the less likely that soldier is to use drugs. Fourth, the perception one crew member holds about another is related to similarity in or difference in the drug use pattern of the two soldiers. Differences in the level of use also affected soldier's perceptions of each other. Fifth, drug use appears to have a greater influence on the social aspects of the crew member relationship than the job aspects. The cohesive influence drug use has in the social realm may be due more to turbulence in the crews than drug use, per se.

OBJECTIVES

This project's objective was to collect data relevant to the components believed to comprise cohesion among military crew members and to examine the relationship between these components and drug use.

MILITARY RELEVANCE

Rioch (1954), Stouffer, et.al. (1949, 1950) and Glass (1949) document the importance of cohesion in protecting the individual soldier against psychiatric breakdown in the combat environment. Janowitz and Little (1965) assert that psychiatric breakdown rates during World War II and the Korean conflict were lowest in those combat teams and units that developed tightly knit or cohesive groups. Ginzberg, et.al. (1959) reports that 15% of the men inducted for military service during World War II were separated as ineffective due to emotional deficiencies in forming and maintaining interpersonal relationships among their fellow soldiers. They conclude that adjustment to the Army environment is highly dependent upon the individual's ability to quickly develop new interpersonal relationships with fellow soldiers and gain acceptance into small groups which replace those of civilian life. The case studies presented by Ginzberg illustrate how exclusion from a group can result in individual debilitation. Without inclusion by a group, an individual is cut off from sources of valuable information, confidants, social contacts, and so on. Such inclusion was perceived so important to soldiers that many reported modifying their behavior so as to obtain group acceptance and affiliation.

Marshall (1947) sees the presence of a comrade as the primary variable which enables the combatant to "keep going." In Marshall's view, the fighting man is sustained primarily by his fellow soldiers and secondarily by his weapon. He believes that, given the choice between being unarmed yet in the presence of others and being alone with the most perfect quick firing weapon, the combat soldier will choose the former situation. He further states that:

green troops are more likely to flee the battle field than others only
because they have not learned to think and act together (p.124)

He sees the effective collective action resulting from the cohesion process among team members as the basic element needed for squad unity. Without this basic element, there is no battle strength within the company or regiment. Thus he argues that team unity (cohesion) is a critical component of human combat readiness. Superior individual performance is secondary to group unity of action and purpose. Furthermore, effective group performance is as dependent upon group unity of action (cohesion) as any other single variable.

Cohesion or bonding among co-workers, as reported in the psychological and sociological literature on work and productivity, is composed of both task-directed and social-directed dimensions. From this literature certain behaviors common to cohesive groups are identifiable. Those are: commitment to group and organizational goals; a desire to retain group members; low absentee rates; a feeling by group members that they provide safety and protection for one another and a belief that the group will assist the individual members in guarding against feeling anxious or lonely; a resistance to disruption when a group member leaves and the perception of retaining contact with a departing group member; easy maintenance of group productivity goals; a belief that their leaders take a personal interest in them and have the member's best interest at heart; and mutual: cooperation, acceptance, pride, influence, participation in group activities (instrumental and social) self-disclosure about personal life events, trust, loyalty, companionship, and attraction (See Appendix A).

The crew/squad is the principle maneuver element of small unit tactics. To accomplish its mission, the crew must be able to work together as a team - with one person's efforts complementing those of the other crew members. Given the basic assumption underlying military tactics (the combat team), effective group performance is critical to military success.

Consequently, a fundamental assumption underlying the team concept is that individuals combine their efforts and move toward the same goal (a well maintained tank, gunnery proficiency, etc.). Team division into sub-elements introduces a barrier to team unity and functioning that must be overcome if that team is to maximize its capacity as a tactical element. If any single team member is absent or deficient, the other members must be able to compensate for this loss. Personnel shortage and/or skill imbalance is just one example of what can divide a team or result in a requirement for the remaining team members to carry more of the crew's performance demand than normal.

Teams can be divided in other ways. Previous research (Ingraham, 1978) using participant observation methodology linked a soldier's drug use to cohesion in military work teams. Drug use was conceptualized as both enhancing and detracting from cohesion in these teams. It was perceived as facilitating the bonding process (cohesion) by providing a form of "social glue" among using barracks dwellers. However, it was also viewed as splitting work teams into subgroups; users, non-users tolerant of users, and anti-users. His conclusion was that anything which divides a team into subgroups has a net detrimental effect on the team's performance.

The use of illegal drugs by soldiers is of major concern to both civilian and military leaders. As stated above, research (Ingraham, 1978) indicates that drug using groups of soldiers often display the characteristics of cohesive groups. This research also indicates that the norms established within these using groups contribute to a we-they philosophy (we, the using group's members; they, Officers, NCO's and the soldiers in the unit not accepting of drug use), discourage being an informant to authorities about group activities or member behavior, and delineate the requirements necessary for acceptance or rejection of a given individual by the group. Being cohesive, one of the group goals is to preserve their recreational drug use and its consequent group affiliation even though this is in direct conflict with organizational policy. Generally speaking, organizational goals are more easily attained with cohesive work teams. Such

is so if and only if the goals of a cohesive work group coincide with the goals of the organization. When the goals of a cohesive group are in conflict with organizational goals the attainment of those organizational goals can be jeopardized if not circumvented (Shaw & Shaw, 1962; Schacter, Ellertson, McBride, & Gregory, 1951; Sakurai, 1975; Kelley & Shapiro, 1954). Cohesion, therefore, is insufficient without an allegiance by the group to the parent organization.

In essence Ingraham asserts that drug use: 1) divides units and work teams into using groups and non-using groups, and 2) puts the goals of the cohesive using group in conflict with the policies of the Army and those individuals charged with the responsibility of upholding those policies (Tank Commander, Platoon Sergeant, 1st Sergeant, Company Commander, etc.). For example, it is possible for a team to be composed of one teetotaler, one casual drug user and two heavy alcohol users; or one married soldier with five dependents and three single soldiers; or a highly religious person who spends 4 days a week attending church services and three heavy alcohol users who spend 4 days a week in taverns; or three black men and one hispanic; or a 35 year old E-7 and three 20 year old E-3s, Ad infinitum. What this does is to create a crew environment or climate where the individuals composing the team have completely divergent day-to-day activities, vastly dissimilar values, and/or life "pressures" that the other crew members do not nor cannot understand. Even so, division into groups of common demographic definition is not static. At times a group will divide according to race. At other times rank or drug-use overrides.

The immediate short-term goals of a given group often determine its composition. Likewise, the same variables that can divide a group can solidify it. A tank crew wherein all members use drugs, are black and live in the same barracks room may be a highly "cohesive" group but not cohere to the organizational element (platoon, company) to which it belongs - especially if that crew's platoon sergeant is a highly conservative person or if he is perceived as holding racial prejudices.

In summary, cohesion in military work teams is a vital component of successful tactical performance and individual adjustment to combat. Drug use has the potential of splitting tactical work teams into factions, pitting individual soldiers and their affiliative groups against immediate military supervisors and Army policies. The overriding assumption here is that anything which divides a team into sub-groups (factions) can decrease the overall cohesiveness of a given team. This is true whether the division is caused by drug use, racial attitudes, religious beliefs, social activities, cultural backgrounds, social stratification, and so on.

METHODOLOGY

Sample Data collection occurred in the Federal Republic of Germany. Subjects were American soldiers. The sample was obtained from a total of 65 Army tank crews at two military bases. The tank crews were all male. The research subject pool was drawn from 7 Tank Companies in 5 Tank Battalions from 2 Tank Brigades. One of the brigades was geographically located near a major drug trafficking city. The other was far removed from such a source and located in a highly rural area. Although some crews had only three members assigned during the data collection period, the typical crew included a Tank Commander, a Loader, a Gunner, and Driver. In each case, if one member of a crew was included in the sample - all of the remaining members of their crew were interviewed and included in the sample.

Cohesion Questions The starting point for this research was to construct an initial set of characteristics of cohesive groups based on the best available work to date. A list of traits characteristic of cohesive groups, relevant to both task accomplishment and the group's social-emotional climate was extracted from a review of the cohesion literature. The underlying assumption was that a crew that possessed these task related and social/emotional characteristics was cohesive and one that did not was not. The traits identified are presented in Appendix A.

Based primarily on the traits in Appendix A, a 32 item questionnaire was developed. Each question finally selected (see Appendix B) was judged by a group of psychologists and military professionals to possess face validity as a potential measure of the characteristics presented in Appendix A (except for four items to measure racial/ethnic attitudes) and appropriate for a military environment. Scoring was based on a 5-point Likert Scale (with "not at all" as one end point and "a whole lot" as the other) (Likert, 1932).

Drug Use Questions Because of the interest in the social patterns engendered by drug use, these questions involved use within given contextual settings rather than the more traditional inquires about what kind of drug was used and how often. Each question (see Appendix C) was scored using a 5-point Likert-Scale with "never" as one end point and "always" as the other.

Procedure. A one-to-one structured interview approach was used. Interviewers were military personnel of similar military rank to the individual being interviewed. Each interview was conducted in private with only the interviewee and research technician present. Although the names of those being interviewed were not filed nor was any code used that could trace a response back to an individual interviewee, a subject code was constructed to identify common members of a crew. Given this procedure anonymity could be guaranteed the research subjects. This was explained to each research subject as a part of the informed consent procedure. A research subject read each question and gave a verbal response to the interviewer who recorded it on an answer sheet.

Each subject (called "interviewee" in this analysis) responded to every questionnaire item about each of his other crew members (called "target" in this analysis). That is, if the crew was composed of four people (a Driver, a Loader, a Gunner, and a Tank Commander) each subject answered all 32 questions a total of three times.

Each interviewee reported on their own drug use, not that of their fellow crew members. Alcohol use questions were included in the interview but are not a part of the analysis reported here.

MAJOR FINDINGS

1. Cohesion is not a unitary concept but is composed of inter-related sub-dimensions of which a task directed component and a social directed component are most prominent.

A Principle Components Analysis (PCA) and factor analysis using a VARIMAX rotation was performed on the cohesion questions. The PCA yielded seven factors with eigenvalues greater than 1 which cumulatively accounted for 64% of the variance. Table I provides a listing of the cohesion questions and the factor scale loadings above .30. High loading questions (above .50) are underlined.

1. Job Scale.

All of the questions loading on this scale asked the interviewee to evaluate the target in a job or duty performance context. Those questions with high loadings on this scale involved job skill or competence, a desire to retain the target as a fellow crew member, perceptions about the target's day-to-day helpfulness, a belief that the target would provide safety and protection to the interviewee in combat, a perceived loss of crew effectiveness if the target was killed, an assessment of the target's dependability and pride about the target's assignment to the interviewee's crew. This scale accounted for 26.5% of the common variance among the scales.

2. Social-Emotional Scale.

The high loading questions on this scale all address social or emotional affiliation. Those with high loadings query after-work activity (weekend trip companionship, freetime spent together) or attachment (liking, how much the interviewee tells the target about his personal life, whether the interviewee considers the target a good friend, if the interviewee thinks he would keep in touch with the target if the target PCS'd or ETS'd, and pride that the target is assigned to the interviewee's crew). This scale accounted for 20.4% of the common variance.

3. The Buddy Scale.

Those questions having high loadings on this scale involved the interviewee's willingness to change his own behavior as a result of the target's opinion, telling the target about his personal life, and the loaning of money (interviewee would loan money to target and vice versa). From a review of the literature from WWII and Korea - the items that load on this factor parallel the descriptions combatants give of their "buddy" (the individual in the unit with whom they feel closest, whom they trust most, and whom they see as most likely to help them in a life threatening situation). This scale accounted for 12.2% of the common variance.

4. Racial/Ethnic Attitude Scale.

All four of the high loading questions asked the interviewee's opinion about the target's attitudes and beliefs about racial or ethnic differences. This scale accounted for 11.8% of the common variance.

5. Peer Concern Scale.

Items with high loadings on this scale queried who, among the interviewee's crew members he would try to influence. One question asked about the interviewee's willingness to stop the targeted crew member from doing something that could get the target into trouble. The second queried if the interviewee would try to get the target to do a better job. This scale accounted for 11.1% of the common variance.

6. Organizational Commitment Scale.

The two questions having high loadings on this factor ask the interviewee to assess if he thought the target believed the Officers and NCOs in the unit take a personal interest in him and if the target would trust his Officers and NCOs as leaders in combat. This scale accounted for 9.9% of the common variance.

7. Trust Scale.

This scale likewise, carried only two high loading questions. One of the items (loading of +.73) asked how alone or lonely the interviewee felt when he was in the sole company of the target. The other (loading of -.70) asked if the interviewee believed the targeted crew member would attempt to get out of going into combat if the crew was told to deploy. This scale accounted for 6.9% of the common variance.

The correlation coefficients (r) among all of the VARIMAX factor scales ranged from .52 to .95 (see Table II). Except for the Trust scale, the remaining scales each accounted for large amounts of variance (between 57% and 90%) in each of the other scales. The Social-Emotional, Buddy and Job scales yielded r values above .90 with one another. The Racial/Ethnic Attitude scale yielded r values between .80 and .85 with the Job, Buddy, Social-Emotional and Organizational Commitment scales. That these factor scales are highly correlated with one another is common (Kim & Mueller, 1978). Kim and Mueller assert that, even though a high correlations among scales occur, the underlying factors are still orthogonal. Although measuring different components of cohesion, the scales are inter-related in terms of the evaluations soldiers make about one another in the different areas of their relationships. Together, the scales are descriptive of the group dynamics phenomenon broadly labeled cohesion (i.e., the whole is greater than the sum of the parts).

Cartwright (1968) states that cohesion is a circular model wherein one variable influences another. Assuming that the scales produced by the VARIMAX procedure are orthogonal (Kim & Mueller, 1978; Nunnally, 1978), Cartwright's assertion appears supported in that soldiers who rate their crew members high on the Job scale also do so on the Social-Emotional scale and on other scales. Cohesion is therefore not a unitary concept, per se. It appears to be comprised of a variety of sub-dimensions which are inter-related. Cohesion is a complex group property tied to the overall group process. This may explain why an universally accepted operational definition of cohesion is unavailable in the literature (Zander, 1979). Cohesion may lie in the eye of the beholder.

2. Tank crews are composed of two distinct populations: Tank Commanders differed sharply from crew members (Drivers, Loaders, Gunners).

As Table III shows, Tank Commanders tended to be NCOs (E6's or above), were older (mean age 27), were married with dependents living off-post or in a family housing area and had a car. Whereas crewmen tended to be E4's or below, were younger (mean age 22), were single living in a barracks, and did not have a car. These two groups also differed in terms of other life experiences. Tank Commanders were more likely to have attended college, with several reporting degrees and much less likely to have dropped out of high school without a diploma. Many of the Tank Commanders had had other overseas tours and were into their second or successive enlistment whereas the vast majority of the crewmen had never been overseas before and were first termers.

In contrast, these two groups both possessed a proportionate racial mix (save for hispanics who were underrepresented among Tank Commanders). Neither group indicated much direct combat zone experience (14% of the Tank Commanders reported having been stationed in Vietnam with only 1% of the crewmen reporting such). In terms of longevity in unit assignment and duty position turbulence, the two groups were also similar.

Tank Commanders and crewmen also evaluate their fellow team members differently. When the cohesion questions were factor analyzed, separately, for Tank Commanders and crewmen the factors produced differed slightly. The factor labels and item loadings on the factors were basically the same. However, the factor accounting for the most common variance for the Tank Commander group was that labeled "Job" whereas for the crewmen group it was that labeled "Social-Emotional". Tank Commanders, bearing primary responsibility for crew task accomplishment, appear to evaluate crew members along a job performance dimension whereas crewmen evaluate one another along a social-emotional dimension. This further supports the idea that any one dimension is not singularly descriptive of cohesion among team members. Therefore, the role of the evaluator in relation to that of the target effects the factors produced.

3. Crew turbulence was very high and due primarily to intra-unit movement.

As indicated above, a soldier's assignment to his Kaserne and Company were reasonably stable (80% reported being assigned for 7 or more months) in comparison to crew assignment (40% reported a crew assignment longer than 6 months). In terms of crew life (how long all of the members of the crew had worked together in their current crew), seventy-nine (79) percent had a crew life of less than 4 months with 42% having a 1 month crew life. Although the mean crew life was 3 months (or one training cycle) the modal crew life was only 1 month. Only 14% of the interviewed crews had a crew life of 6 or more months.

Many of the crews interviewed were not full crews because of personnel shortages in the units participating in the project. Additionally, many of the soldiers were so newly assigned to their current crew that answering the cohesion questions was difficult. De-brief discussions with the research technicians conducting the interviews revealed that, in the vast majority of crews interviewed, at least one crew member qualified his responses by saying that he knew very little about one or more of his crew members.

Tank crews may encounter natural barriers to the formation and maintenance of cohesion due to the demographics inherent to its members. Ingraham (1978) observed that military personnel self-divide according to race, rank, residence location and work group membership. Given that a crew could possess many possible combinations of a racial, age and rank mix, this in itself could pose obstacles for the crew to overcome.

Given that crew turbulence limits the crew membership of any two soldiers to less than 6 months plus the fact that the crew, as a working unit, may have worked together for less than 60 days, the incentive to overcome these demographic barriers may be minimal. Both perceived similarity and proximity play a major role in human relationships (Lindzey & Aronson, 1969). When two soldiers live in two separate places with transportation resources at a minimum, one is married with familial responsibilities

and the other is single, one uses drugs and the other is charged with the responsibility of upholding policies to eliminate from service those who do so, one is from an Iowa farm and the other is from New York City, — and they expect to work together (in the same crew) for no more than a few months, overcoming the experiential barriers posed by their inherent differences may require more effort than the individuals are willing to exert to achieve the rewards afforded by a cohesive work group. Membership in groups other than the tank crew may be perceived as more attractive and beneficial for no other reason than the crew's expected longevity is so short.

4. Drug use was evident in virtually every crew interviewed. Knowledge of use was common among crew members. The few Tank Commanders who reported use were young, single, did not report use in the presence of crew members, nor on duty.

No statistical difference, in drug use scores, was evidenced between platoons, companies, battalions or brigades included in the sample. Use was thus not localized in any one unit or geographical locale, though it was evident in the sample as a whole.

Of the 65 crews from which usable data was obtained from all crew members, only two crews were classified as totally non-using. Likewise, only one crew contained all drug using crew members (see Table IV). Use was generally reported by only one or two crew members however. Using crew members were most likely to be Drivers and less likely to be Loaders or Gunners. The least likely user was the Tank Commander.

As Table V indicates, 85% of those admitting drug use (excluding Tank Commanders) reported "never" or "rarely" doing so during duty (defined as 1 hour before reporting to duty until the end of the duty period, to include lunch and breaks). Seventy (70) percent reported infrequent or no drug use while "alone". Only 5% of the using sample said they never used drugs "socially" and 27% of those soldiers who reported drug use never did so with other members of their crew (only one Tank Commander reported using with another crew member).

Table V reflects that 74% of the Gunners, Drivers and Loaders knew that their fellow crew members used drugs. In comparison to soldier to soldier knowledge of crew member use, 54% of the crewmen were reported by Tank Commanders as knowledgeable of their (Tank Commander's) drug use. Five of the seven drug using Tank Commanders indicated that at least one of their supervisees knew he currently used or had used drugs. Data indicated Tank Commanders tended to tell using crew members and not tell non-using crew members. That crew member most likely to know about the Tank Commander's drug use was a using Gunner. Those Tank Commanders who did report using drugs generally denied doing so with other crew members and did not report use during duty. Only one Tank Commander reported using drugs during duty or with one of his crew members. Five of the seven reporting drug use lived a "bachelor" style life (they were either single or geographically separated from their dependents) and were under age 25.

As stated above, Tank Commanders differ from the other members of a tank crew in a whole host of ways, drug use pattern being one way they differ. Drug use appears to be localized among lower ranking (E1-E5) and young (under age 25) soldiers who are unmarried or geographically separated from their family (see Table IV). Given that the majority of soldiers reporting drug use also tend to live in close proximity in the barracks, it is not suprising that they would report using in the presence of one another. Given the nature of the duty use question, it was impossible to determine when the use actually occurred (at lunch, in the field, etc.).

5. Similarity in drug use pattern, rather than use or non-use per se, appears to organize the perceptions soldiers have of one another.

When the ratings of users and non-users on the seven factor analytic cohesion scales were analyzed, by using a Kruskal-Wallis Test without taking into consideration the use pattern of the interviewee, none of the calculated values were statistically significant at the $p = .10$ level. When the interviewee and target were matched according to whether their use pattern paralleled or not (non-users addressing non-users (NU), users responding about users (BU) and where use differed (DU) - one used and one did not), six of the seven cohesion scales and two ad hoc sub-scales (one (COMBAT) was comprised of all cohesion questions related to combat on the Job scale, the second (AFFIL) was comprised of all items loading above .50 on the Social-Emotional scale) yielded significant results at the $p = .10$ level or beyond (see Table VI).

When neither soldier used drugs, the evaluation given was high. When use differed, the evaluation was low. This was the case regardless of the context of the evaluation (i.e., the scale). When both used, the ratings varied from high to low depending upon the context of the evaluation. The BU group ratings were low on the Job, Peer Concern, Organizational Commitment and Trust scales and high on the Social-Emotional and AFFIL scales. They fell mid-way between the high and low rating groups on the Buddy and COMBAT scales. Overall, drug use appears to degrade the perceptions soldiers hold of one another when one or both use. The exception is where the evaluative context is social and both use drugs. Here drug use enhances the evaluation.

Similarity or difference in drug use pattern organizes soldier to soldier perceptions. Soldiers do not appear to hold stereotypical attitudes toward drug users, per se, but do make attributions about users and non-users in relation to their own drug use pattern.

6. Level of use influences the perceptions soldiers hold about one another.

A drug use scale score was derived for each subject using the following formula:

$$\text{USE} = (\text{Questions1} + \text{Question2} + \text{Questions3} + \text{Questions4} + \text{Question5} - 5) / 25 * 100$$

(The questions are provided at Appendix C). A mean for the USE distribution was computed. Those soldiers whose USE score fell below one standard deviation (SD) from the mean were classified as "low" users, those falling within one SD of the mean were classified as "mean" users and those falling above one SD from the mean as "high" users. Non-users were classified as such. Even so, drug use was a recreational activity and infrequent verses habitual. A visual examination of the responses to the drug use questions showed that the most frequently given response was "rarely" across the five drug use questions and the use "socially" question most often accounted for the score obtained by the low and mean use groups. The high use group reported more frequent use over more than just one question (social use plus duty use as well as use while alone).

Subjects were then matched (interviewee and target) according to their comparative level of use classification. This resulted in 16 DIADUSE groups (i.e., NN: a non-user addressing another non-user, NL: a non-user addressing a low user, etc.). Group rank means were calculated for these 16 DIADUSE groups. Groups whose means were not statistically different were collapsed into one group. This procedure yielded five USELEVEL groups: 1. Neither used drugs (NN), 2. Both were low users or one was a low user and the other was a mean user (LL), 3. Both were mean users, both were high users or one was a mean user and the other a high user (HH), 4. Use differed and a non-user was addressing a user (NU), 5. Use differed and a user was responding about a non-user (UN). The data was then subjected to a Kruskal-Wallis Test, the results are presented in Table VII.

Almost without exception, the NN and LL group means were high and the HH and NU group means were low, for all seven cohesion scales and the two ad hoc sub-scales. The only notable exception was the AFFIL scale where the HH group yielded the second highest mean. The UN group mean varied with the context of the evaluation. Overall, users gave higher evaluations to non-users than non-users gave users. High users gave other high users as low a rating as non-users gave to users, in all of the evaluative contexts except close friendship (AFFIL).

Comparative level of use thus influences the evaluations soldiers make about one another. When neither soldier used drugs or when both used but their use was low (recreational and primarily social), the evaluation was uniformly high. When a non-user was evaluating a user or when both soldiers use was high (frequent and/or multi-situational), the evaluation was uniformly low. As the difference in use level widened between the two soldiers and the one giving the evaluation was a non-user or as the use level increased (even if the level of use of the two soldiers was comparable) the evaluation across scales decreased.

7. Similarity or difference in use impacts more on soldier perceptions of Tank Commanders than the level of the Tank Commander's use does.

The analysis reported here is an extension of those reported under Findings 5 and 6. When soldiers were addressing Tank Commanders, as targets, the parallel use procedure (Finding 5) yielded a significant calculated value on three of the cohesion factor analytic scales (Social-Emotional, Peer Concern, and Organizational Commitment) as well as on the COMBAT and AFFIL sub-scales (Table VIII). In comparison, the level of use procedure (Finding 6) yielded a significant calculated value only on the Peer Concern factor scale and the COMBAT sub-scale (Table IX).

For the parallel use analysis, when neither the soldier nor the Tank Commander used drugs, the rating was high on each scale. When use differed, regardless of whether it was the Tank Commander who used or the soldier, the rating was low. When both used, the rating was high on the Social-Emotional and AFFIL scales, and mid-way between the low and high rating groups on the Peer Concern and Organizational Commitment scales. The rating was low on the COMBAT scale. For the level of use analysis, the NN and LL group means were high, the NU group mean was low, and the UN group mean fell mid-way between for the Peer Concern scale. For the COMBAT scale, the NN group mean was high, the NU group mean low, and the LL and UN group means mid-way between the high and low groups.

It thus appears that simple similarity or difference in use organizes a crew member's perceptions of his Tank Commander more than the comparative use level of the two does.

8. When crew members have little else in common (residence, race, rank, etc.), use or non-use is a powerful determinant of affiliation within the crew. Users spend time together. Non-users avoid users. When crew members have other bases for relating to one another, drug use or non-use loses its importance as a determinant of affiliation.

Previous military psychiatric research (Ingraham, 1978) suggests that residence location, race, rank, and work group membership as well as drug use often determine after-duty comradery (social cohesion). Examination of modal scores on the Cohesion Questions indicated that similarity or difference in drug use pattern influenced the amount of freetime soldiers reported spending together. Overall, 30% of the soldiers interviewed reported spending "a lot" of freetime with a fellow crewman. When both soldiers used drugs and knew of one another's drug use, 50% reported spending a lot of freetime together. Interestingly enough, when both used drugs but neither knew of the others use,

only 14% reported spending a lot of freetime together. The "freetime" cohesion question was the question with the second highest loading on the Social-Emotional scale (and AFFIL sub-scale). This observation is therefore consistent with Findings 6 and 7, where the BU group (Finding 6) and LL and HH groups (Finding 7) yielded the highest group means on the AFFIL sub-scale, with the NU/NN groups indicating a lower group mean and the DU/NU/UN groups yielding the lowest mean.

A further analysis was undertaken to examine the relationship between demography, drug use and social cohesion. The AFFIL scores were divided into two groups: Hi AFFIL and Lo AFFIL. The Hi AFFIL group was comprised of the top third of the distribution and the Lo AFFIL group, the lower one-third.

A 2x3 chi-square, with the two categories of AFFIL and the three categories of parallel drug use (both used (BU), neither used (NU), use differed (DU)) yielded a calculated value of 7.27 ($df=2$, $p=.05$). In examining the individual cell contributions to the overall chi-square value, the BU and DU cells made the greatest contributions ($BU=4.33$, $DU=2.35$, $NU=.59$). The BU/Hi AFFIL cell was overrepresented (+), according to what would be expected by chance. Likewise the DU/Hi AFFIL cell was underrepresented (-). The NU/Hi AFFIL cell was only slightly overrepresented (see Table X). Similarity (both used, neither used) in drug use pattern facilitated social activity and a differential use pattern impeded it.

The subjects were then grouped by four demographic variables in addition to drug use pattern: residence location, race, age and rank. Each interviewee-target pair was classified on the basis of the number of demographic variables they had in common, without regard to which specific characteristics they shared. For example, soldiers who had only race in common were classified as having "1" common variable, just as soldiers whose only shared characteristic was age. The differentiation in drug use pattern was maintained.

The chi-squared value of 21.37 (df=7, $p=.01$) and an examination of Table XI suggests that when two soldiers shared no demographic similarity, the HI AFFIL cell was under-represented whether their drug use pattern was the same or different. When they shared three or more variables in common, the HI AFFIL cell was over-represented. Here as well, drug use similarity or difference did not differentiate. This pattern changed when the soldiers shared only one or two demographic variables in common. In these two situations, when the two soldier's drug use pattern was the same, the HI AFFIL cell was over-represented. When their drug use differed, the HI AFFIL cell was under-represented.

Drug use thus seems to facilitate recreational activity among and/or provide a vehicle for interpersonal interaction with fellow soldiers when they share some but not a lot of "commonality". Even so, a certain amount of commonality appears to be needed before drug use plays a role in this affiliation process. When two crewmen shared only drug use, this by itself did not increase their affiliation with one another. When they shared one or two common demographic characteristic (residence location, race, age, or rank) in addition to their crew status and their drug use pattern was similar (both used or neither used), affiliation was high. If their drug use differed (one used and the other did not), affiliation was low. When the crewmen attained three or more common demographic characteristics, whether the use pattern differed or was similar, the crewmen displayed a higher than expected affiliation score. The more two soldiers had in common the less influence drug use appeared to have on their social activity with one another.

Given the small sample size, analysis to determine which shared commonalities override drug use or which single or combination of variables facilitate drug use among crew members was not possible.

RESULTS SUMMARY AND DISCUSSION

The primary objective of this research project was to examine the relationship between drug use and cohesion among military personnel.

Factor analysis of answers to our "Cohesion" questions indicated that cohesion is not a unitary concept. It is composed of interrelated sub-dimensions, the two most prominent being task-related and social-related. Drug use was evenly distributed throughout the sample, in that: 1) all units (whether platoon, company, battalion, or brigade) had a relatively equal number of soldiers falling into each use group (non-users, low users, mean users, high users) and 2) the vast majority of the crews interviewed contained at least one drug using member. Within a crew, the least likely crew member to use drugs was the Tank Commander. Gunners reported less use than Drivers and Loaders. As age and job responsibilities increased, drug use decreased. The drug using group was young, lower ranking, single or a geographical bachelor and consequently lived in a barracks.

Drug use organized, to some extent, the perceptions crew members held about one another. When the data was analyzed looking at general perceptions about crew members who were users or non-users (without regard to the use pattern of the interviewee), no statistically significant results were found — regardless of the variable used. In these early stages of analysis, all attempts to analyze the data yielded non-significant results or highly confusing and uninterpretable results. When the interviewees and targets (crew members they were responding about) were matched in terms of similarity or difference (both used, neither used, use differed) in drug use pattern, significant findings began to emerge. The more alike two soldiers were in terms of their drug usage pattern, the more likely they were to give one another high evaluations. When patterns differed, the evaluation was lower. Lower or recreational users tended to rate one another higher than a low user rated a high user or two high users rated one another. For the crew-at-large, where the interviewee and target were matched solely

on similarity or difference in usage pattern, the social cohesion questions were slightly more sensitive to simple similarity in drug use pattern than the job-related questions were. Level of use also influenced soldier-to-soldier perceptions. As use level increased, evaluations decreased. When both used but use was primarily recreational or neither used, the ratings were high. When both used and use was frequent across situations, the ratings were low. When use differed, whether the rating was high or low was tied to the context of the scale and who was responding about who (i.e., a user about a non-user or vice versa).

Across the cohesion scales, general sociability appeared more sensitive to drug use than general job performance. However, both close friendship and combat appeared sensitive to drug use related perceptions. Social cohesion appeared enhanced when both soldiers used drugs, with high use only slightly degrading the evaluation received. Non-users appeared to have less social cohesion than users did. Differential use patterns (one used and the other did not) appeared to impede social bonding, with users seeing non-users as more attractive as social companions than non-users saw users. When combat was the evaluative setting, high use significantly degraded the evaluation received. In a combat context, when neither soldier used or both used and the use level was low, the rating was high. When both were high users or the evaluator a non-user, the rating was low. When the context of the evaluation was combat, high users gave other high users low ratings and non-users gave users equally low ratings. It appears, therefore, that as the level of use increases evaluations about a combat setting decrease.

Drug use thus had a greater impact on soldier-to-soldier perceptions when the drug use of the soldier being evaluated had the potential of directly effecting the evaluator's personal happiness or life survival. Evaluations of combat effectiveness were affected more by drug use related perceptions than general or day-to-day performance. Likewise, close friendship was affected more than general sociability. Because of the turbulence in crew assignments and stability in Company assignments, social

relationships among soldiers in a unit (Company) may be viewed as more stable and therefore more personally beneficial and rewarding, in the long run, than their job relationships. Consequently, drug use may have more effect on the social realm of soldier-to-soldier relationships than on their work relationship.

Similarity — demographic as well as drug use pattern — may be the truly critical factor in cohesion and affiliation however, and the mechanism by which drug use has its effect. When subjects were matched on commonalities other than drug use (race, residence location, age, and rank), drug use appeared to lose some of its influence in organizing the data where crew members had nothing (other than drug use and work group) in common and where the two crewmen had a lot in common (once again other than drug use and work group). Drug use appeared to be influential where both crewmen used drugs and they shared only one or two demographic commonalities. Demography and drug use thus interact at some level, but with the data at hand determining which demographic characteristics override drug use (and vice versa) was not possible.

Tank crews are comprised of two sub-groups — Tank Commanders and crewmen. The two groups have different demographic characteristics, display different drug use patterns, and appear to have different perspectives on the roles (formal and informal) played by members in the crew. Whether the user was in a leadership or supervisory role to the evaluator or was a peer affected drug use related perceptions. Simple similarity or difference in drug useage pattern had an impact on the perceptions held about a Tank Commander, whereas level of use contributed significantly to the perceptions held about peers. Drug use by a Tank Commander was thus viewed differently than use by a Driver, Loader or Gunner. Using Tank Commanders, regardless of their level of use (high or low) were rated lower than non-using Tank Commanders - by both using and non-using crew members. Non-using crewmen gave low using crewmen as high a rating as they gave to non-users. High users were given lower ratings by non-users and low users as well as other high users.

Furthermore, parallel use pattern, involving a Tank Commander as target, appeared to influence evaluations about combat situations more than questions about social situations. Because of the supervisory role of the Tank Commander within the crew, soldiers may see a using Tank Commander differently than they see a using Loader. Additionally, because of demographic differences and the nature of the relationship between a Tank Commander and any one of his crew members, he may not be seen by a Loader, Driver or Gunner as a very likely social companion whereas his role as a fellow combatant and leader could directly effect those crew members. Therein, use in and of itself (regardless of the level of use) may be a more critical issue when the user is a Tank Commander than when the user is not.

In conclusion, the criteria one soldier uses to evaluate another in relationship to drug usage may have as a focal point the self. Similarity in use pattern, the level of use and the context of the evaluation all appear to interact. When the context is general sociability or general job performance the impact drug use has is less than when personal survival (COMBAT sub-scale) or close friendship (AFFIL sub-scale) is the evaluative context. In essence the unspoken question one soldier asks about another is: How much personal satisfaction do I derive from being with this soldier and/or can I rely upon this soldier to provide me with assistance and protection when I really need it. The more alike the two soldiers are and the lower the drug use level of the soldier being evaluated, the more likely a soldier is to rate the other high. And vice versa.

High use degrades the evaluations soldiers give to one another. Low use increases interpersonal attraction among users. Evaluations of users, by both users and non-users, are lower the higher the use displayed and the more directly the evaluator's personal life can be effected in the context of the evaluation. Furthermore, the criteria used to evaluate a drug using Tank Commander is different from that used to evaluate a drug using peer. Use alone degrades the evaluation of a Tank Commander, whether the evaluator is a user or not, whereas level of use degrades the evaluations of peers.

RECOMMENDATIONS FOR FUTURE RESEARCH.

Entire companies were used to collect data. This approach resulted in data that did not lend itself to answering some of the proposed research objectives. For example, since only 2 crews contained all non-using crew members, it was impossible to test the hypothesis that crew cohesion is higher in crews where everyone uses or noone uses than in crews composed of a combination of users and non-users. It is therefore recommended that future research screen crews for levels of drug use as well as levels of cohesion and then choose crews falling at all points on both continuums so as to have a sufficient number of crews in each hypothesized category for analysis.

All of the data collected for analysis was intra-crew. No data was available to examine soldier relationships outside the current crew that might impact on intra-crew relationships (family, previous crew members still in the unit, etc.). This type of analysis has been proposed as a follow-on phase of the research protocol. If similarity in drug use pattern and demography are powerful organizers of intra-crew relationships, an examination of affiliative choices other than those afforded by crew members is recommended for future research.

The questions used to comprise the drug use scale were less sensitive than desirable. Items, sufficient in number and context, to result in a larger scale range and a less skewed distribution should be constructed and tested before being used as a screening device.

One of the critical issues surrounding drug use and cohesion is the influence drug use exerts upon combat readiness and/or performance. A concerted effort should be made, in future research, to obtain performance data, representative of the crew members being interviewed.

Crew turbulence was a major barrier encountered in the conduct of this research project. Theoretically, cohesion is presumed to be directly tied to familiarity with and a positive evaluation about group members. Given the degree of unfamiliarity between

members of the crews interviewed, their perceptions of one another may have been based more on first impressions than upon actual behavior. Because data affording examinations of soldier relationships outside the crew was unavailable, relationships with other unit members could be stronger than those with current crew members simply because of a lack of relationship density in the current crew. In addition, if crew members see their current crew relationships as temporal (lasting only a few months at most), other relationships that are perceived as having the potential of greater longevity (i.e., extra-crew social partners) may be the more valued. In conclusion, turbulence may be the greatest inhibitor of cohesion developing in crews.

Drug use appears to provide yet another inhibiting force acting upon the "crew" and a cohesive force acting upon social or affiliative choices among crew members. By splitting crews into factions based on similarity and dissimilarity in drug use pattern (both use, neither use, use differs) and/or level of use, it plays a distracting role in the "crew." Between the distracting potential of turbulence combined with that of drug use on the crew (as a team) and the additional distracting influence of extra-crew relationships plus the cohesive forces acting upon social groups, the area most potentially responsive to drug use intervention strategies may be the social and interpersonal aspects of the crew member relationship.

Future research on cohesion and drug use should focus its attention on the interpersonal realm of military work teams so as to better understand the role drug use plays in both intra-crew and extra-crew relationships. Given that crew assignment is possibly less stable than social relationships among soldiers, an examination of the influence of drug use on interpersonal affiliation and the choice of social partners for recreational activities on cohesion appears warranted. Altering the social and interpersonal environment of soldiers may be easier to accomplish than crew stabilization. Even so, stabilization of work group membership is necessary if the relationships among work group members are ever to become as important as (or more important than) their social relationships.

REFERENCES

- Cartwright, D. The nature of group cohesiveness. In D. Cartwright and A. Zander (Ed.), Group Dynamics. New York: Harper Row, 1968.
- Ginzberg, E., Miner, J., Anderson, J., Ginsburg, S., Herma, J. The Ineffective Soldier: Breakdown and Recovery. Vol. 2. New York: Columbia University Press, 1959.
- Glass, A. Psychiatry at the Division level. US Army Medical Department Bulletin, 9 (Supl):45-73, 1949.
- Ingraham, L. Boys in the Barracks. Unpublished manuscript, Division of Neuropsychiatry, Walter Reed Army Institute of Research, Washington, D.C. 20012, 1978.
- Janowitz, M., Little, R. Sociology and the Military Establishment (Rev. Ed.) New York: Russell Sage Foundation, 1965.
- Kelly, H., Shapiro, M. An experiment on conformity to group norms where conformity is detrimental to group achievement. American Sociological Review. 19:667-677, 1954.
- Kim, J., Mueller, C. Factor Analysis. Beverly Hills: Sage, 1978.
- Lindzey, G., Aronson, E. The Handbook of Social Psychology. Reading, MA: Addison-Wesley, 1969.
- Marshall, S. Men Against fire. New York: William Morrow, 1947.
- Nummally, J. Psychometric Theory. New York: McGraw-Hill, 1978.
- Rioch, D. Problems of Preventive Psychiatry in War. Unpublished paper, Division of Neuropsychiatry, Walter Reed Army Institute of Research, Washington, D.C. 20012. 1954
- Sakurao, M. Small group cohesiveness and detrimental conformity. Sociometry, 38:340-357, 1975.
- Schacter, S., Ellerton, N., McBride, D., Gregory, D. An experimental study of cohesiveness and productivity. Human Relations, 7:403-439, 1954.
- Shaw, M., Shaw, L. Some effects of sociometric grouping upon learning in a second grade classroom. Journal of Social Psychology, 57:453-458. 1962.
- Stouffer, S., Guttman, L., Suchman, E., Lazarsfeld, P., Star, S., Clausen, J. Studies in the Social Psychology in World War II: Combat and Its Aftermath (Vol. 2). Princeton: Princeton University Press, 1949.
- Zander, A. The psychology of group process. Annual Review of Psychology, 30:417-451, 1979.

APPENDIX A

TRAITS IDENTIFIED AS INDICATIVE OF COHESIVE WORK GROUPS

Task Oriented

cooperation
ready incorporation of new members
belief by members that leaders take a personal interest in them
ease and efficiency in attaining individual and group goals
low absenteeism
high resistance to disruption when member leaves
commitment to parent organization and goals of the organization
ready participation in group activities

Social-Emotional

mutual attraction, influence and acceptance among members
pride in group membership
close and sustained contact with members who leave group
high degree of self-disclosure about personal lives
feeling of security and comfort via group membership
feeling that group members provide companionship
feeling of trust and loyalty among members
reduced feelings of anxiety and discomfort

APPENDIX B
COHESION QUESTIONS

How much do you like your CM*?

If you knew that your crew was going to be placed into combat tomorrow, how much would you like to see your CM replaced with another person?

How much free time do you spend with your CM?

Would you want to keep in touch with your CM if he was re-assigned to another post or separated from service?

How much would you try to stop your CM from doing something that could get him in trouble (go AWOL, damage government property)?

How much would you try to get your CM to do a better job if you thought his work habits were reducing your crew's efficiency?

How much would you change your work behavior if your CM told you he thought you were goofing off too much?

How much does your CM pull his share of the work?

How much additional training or experience would your CM need to become as skilled as his job as the other like CM in your unit?

As compared to the other members of your crew, how much additional training or experience would your CM need to be as good as his job?

How much does your CM help the other members of your crew without being told to?

How much does your CM contribute to the maintenance of your tank, as compared to the other members of your crew?

Would you enjoy going on a weekend trip with your CM?

How much money would your CM loan you?

How much do you tell your CM about your personal life (family, money problems, sex habits, inner most feelings)?

How much do you think your CM would help you, without his being told, if you were wounded in combat?

How much safety and protection do you think your CM would provide you in a combat zone?

How much do you consider your CM to be a good friend and more than just "one of the guys"?

Would your crew's effectiveness be less if your CM was killed and had to be replaced by a new guy.

How much can you depend on your CM to do what he says he will do?

If your crew was told to deploy into a combat zone, would your CM attempt to get out of going?

How alone or lonely do you feel when you are in the sole company of your CM?

How proud are you that your CM is assigned to your crew?

Does your CM believe the officers and NCO's in your unit take a personal interest in him?

Would your CM trust your officers and NCO's as leaders in a combat zone?

Do you believe your CM would help you in a combat situation if you asked him?

How much do you believe your CM tries to be a good soldier and complete the mission?

How much money would you loan to your CM?

Does your CM believe that people of different races should work together in the same crew?

Does your CM think that people should be treated differently just because their race or background is not the same as his?

Does your CM pressure you not to hang around with soldiers of another race?

Does your CM make derogatory comments about people whose race or background is different from his?

* Crew Member

APPENDIX C

Drug and Alcohol Use Questions

How do you mix alcohol with drugs?

*How often do you use drugs during duty hours?

How often do you drink alcohol during duty hours?

How often do you drink alcoholic beverages socially?

*How often do you use drugs socially?

*How often do you use drugs when you are alone?

How often do you drink alcohol when alone?

How often do you get high or drunk on an alcoholic beverage?

*How often do you use drugs around one of your crew members?

How often do you drink alcohol around other members of your crew?

*How often do you miss work or do a poor job at work because of your use of drugs?

How often do you miss work or do a poor job because of your use of alcoholic beverages?

How often do you go on sick call or miss work because of a hangover?

*Questions used to compute drug use score (USE).

TABLE I
COHESION QUESTIONS (Abbreviated) AND FACTOR LOADINGS

QUESTION	JOB	SOC	BUD	RAC	PC	ORG	TRU
1. Like CM*?	.39	.56			.30		
2. Desire to keep CM in crew?	<u>.70</u>						
3. Spend freetime with CM?		<u>.75</u>					
4. Keep in touch with CM if CM left crew?		<u>.71</u>					
5. Stop CM if he could get in trouble?					<u>.70</u>		
6. Try to get CM to do better job?					<u>.80</u>		
7. Change own work behavior if CM told you, you were goofing off?			<u>.50</u>			.35	
8. CM pulls his share of work?	<u>.63</u>	.38			.35		
9. CM as competent as like CM's in unit?	<u>.82</u>						
10. CM as competent as other crew members?	<u>.80</u>						
11. CM helps other crew members without having to be told to?	<u>.55</u>	.40					
12. CM contributes to tank's maintenance?	<u>.60</u>	.39					
13. Enjoy going on weekend trip with CM?		<u>.76</u>					
14. CM would loan you money?			<u>.65</u>				
15. Tell CM about personal life?		<u>.54</u>	<u>.52</u>				
16. Think CM would help you in CZ** spontaneously?	.45		.48		.34		
17. CM provide safety and protection in CZ?	<u>.56</u>		.36				
18. CM is a good friend?		<u>.71</u>	.31				
19. Crew's effectiveness lessened if CM killed and replaced with new guy?	<u>.53</u>		.36				
20. Can depend on CM to do what he says he will?	<u>.60</u>						
21. Think CM would try to get out of going into CZ?							<u>-.70</u>
22. Feel alone or lonely when in sole company of CM?							<u>+.73</u>
23. Proud CM is in crew?		<u>.50</u>					
24. CM believes Officers/NCOs take personal interest in him?						<u>.78</u>	
25. CM trusts Officers/NCOs as leaders in CZ?						<u>.78</u>	

TABLE I (con't)

<u>QUESTIONS</u>	<u>JOB</u>	<u>SOC</u>	<u>BUD</u>	<u>RAC</u>	<u>PC</u>	<u>ORG</u>	<u>TRU</u>
26. Believe CM would help you in CZ if you asked him?	.42		.38		.36		
27. Believes CM tries to be a good soldier and complete the mission?	.49					.40	
28. You would loan money to CM?		.41	<u>.61</u>				
29. CM believes people of different races should work together?				<u>.61</u>			
30. CM thinks that people should be treated differently just because their background or race is not the same as his?				<u>.73</u>			
31. CM pressures you not to hang around with soldiers of another one?				<u>.62</u>			
32. CM makes derogatory comments about people whose race or background is different from his?				<u>.77</u>			
VARIANCE(%) EXPLAINED	26.5	20.4	12.2	11.8	11.1	9.9	6.9

*CM=Crew Member

**CZ=Combat Zone

JOB: Job

SOC: Social-Emotional

BUD: Buddy

RAC: Racial/Ethnic Attitudes

INF: Peer Concern

ORG: Organizational Commitment

TRU: Trust

TABLE II
CORRELATION (r) MATRIX - CONESION FACTOR SCALES

	JOB	RACE	P. CONCERN	ORG. CMMT.	TRUST	SOC-EMOT.	BUDDY
JOB	---	.85	.87	.80	.65	.92	.91
RACE		---	.78	.84	.65	.81	.82
P. CONCERN			---	.78	.52	.90	.86
ORG. CMMT.				---	.66	.76	.78
TRUST					---	.61	.65
SOC-EMOT.						---	.95
BUDDY							---

TABLE III

CREW DEMOGRAPHIC PROFILE

	Crew Members (Drivers, Loaders Gunners, N=197)	Tank Commanders (N=78)
RANK		
E1-E3	36%	00%
E4-E5	64%	22%
E6-E7	00%	60%
O1-O2	00%	18%
	100%	100%
AGE		
20 or under	26%	00%
21-25	66%	40%
26-30	06%	37%
31-35	02%	17%
36 or over	00%	06%
	100%	100%
RACE		
Caucasian	61%	65%
Black	20%	23%
Hispanic	08%	04%
Other	11%	08%
	100%	100%
RESIDENCE LOCATION		
Barracks/BEQ	77%	26%
On-post Family Housing	03%	41%
Off-post	20%	33%
	100%	100%
MARTIAL STATUS		
Single	77%	33%
Married	23%	67%
	100%	100%
HAVE A CAR LOCALLY		
Yes	14%	70%
No	86%	30%
	100%	100%

III (Con't Page 2)

	Crew Members (Drivers, Loaders Gunners, N=197)	Tank Commanders (N=78)
CIVILIAN EDUCATION		
Non-high school graduate	19%	03%
High school graduate	75%	70%
Some college	06%	09%
College graduate	00%	12%
Advanced degree	00%	06%
	<u>100%</u>	<u>100%</u>
ADAPCP ENROLLEE		
Yes	14%	04%
No	86%	96%
	<u>100%</u>	<u>100%</u>
NUMBER OF OVERSEAS TOURS		
1	90%	36%
2	08%	36%
3	02%	18%
4 or more	00%	10%
	<u>100%</u>	<u>100%</u>
STATIONED IN VIETNAM		
Yes	01%	14%
No	99%	86%
	<u>100%</u>	<u>100%</u>
TIME IN SERVICE		
6 months or less	00%	1%
7-12 months	10%	04%
13-18 months	12%	04%
19-36 months	52%	06%
37-60 months	14%	10%
61 months or more	12%	75%
	<u>100%</u>	<u>100%</u>
MONTHS AT KASERNE		
3 or less	08%	10%
4-6	05%	06%
7-13	30%	22%
13-18	26%	26%
19-36	30%	28%
37 or more	01%	08%
	<u>100%</u>	<u>100%</u>

III (Con't Page 3)

	Crew Members (Drivers, Loaders Gunners, N=197)	Tank Commanders (N=78)
MONTHS IN COMPANY		
3 or less	12%	13%
4-6	06%	09%
7-12	26%	21%
13-18	25%	26%
19-36	36%	23%
37 or more	01%	08%
	100%	100%
MONTHS IN CREW		
3 or less	39%	33%
4-6	21%	24%
7-12	23%	23%
13-18	13%	12%
19-36	04%	07%
37 or more	00%	01%
	100%	100%

TABLE IV
CREW USE DATA

<u>Crew Members Reporting Use</u>	<u>N(# Crews)</u>	<u>%</u>
0 (No one in crew)	2	3
1 (One crew member)	30	46
2 (Two crew members)	30	46
3 (Three crew members)	3	5
4 (Four crew members)	0	0
	65	100%

DRUG USE AND DEMOGRAPHY

<u>CATEGORY</u>	<u>N</u>	<u>%</u>
E1-E5, single or geographical bachelor, 25 or younger	76	76
E1-E5, married, over 25	18	18
E6-02, single or geographical bachelor, 25 or younger	4	4
E6-02, married, over 25	2	2
	100	100

TABLE V
SUMMARY OF RESPONSES TO DRUG USE QUESTIONS

	Crewmen (N=93)	Tank Commanders (N=7)
Used drugs during 30 days prior to interview (% of entire sample)		
Yes	40%	9% (N=7)
Drivers	44%	
Gunners	33%	
Loaders	41%	
Crew members know about use (% of those who reported drug use)		
EM about EM's use	74%	
EM about TC's use	54%	
TC about EM's use		66%
Use of drugs during duty (% of those reporting drug use)		
Never	41	86
Rarely	44	0
Half the time	11	14 (N=1)
Often	4	0
Always	0	0
	100%	100%
Use drugs socially		
Never	5	14
Rarely	31	43 (N=3)
Half the time	30	28 (N=2)
Often	24	14
Always	10	0
	100%	100%
Use drugs when alone		
Never	25	43
Rarely	45	43
Half the time	14	0
Often	13	14
Always	3	0
	100%	100%
Use drugs with at least one crew member		
Never	27	86
Rarely	27	14
Half the time	29	0
Often	15	0
Always	2	0
	100%	100%

TABLE V (Con't Page 2)

	Crewmen (N=93)	Tank Commanders (N=7)
Miss work or do a poor job because of drug use		
Never	77	86
Rarely	23	14
	100%	100%
DRUGUSE Composite Score		
Low User	22	57
Mean User	58	28
High User	20	14
	100%	100%
Crew members (by duty position) reporting use	<u>Soldiers Reporting Use</u>	
Drivers	39	
Loaders	29	
Gunners	25	
Commanders	7	
	100%	

TABLE VI

PARALLEL USE - WHOLE SAMPLE

<u>SCALE</u>	<u>BU</u>	<u>NU</u>	<u>DU</u>	<u>CHI.SQ</u>	<u>P</u>
JOB	286*	320	288	5.00	.08
SOC	313	318	283	5.83	.05
BUD	309	315	286	4.70	.10
RAC	NS	NS	NS	NS	NS
PC	276	333	281	13.20	.001
ORG	247	339	284	21.32	.0001
TRU	286	329	286	10.99	.004
COMBAT	299	320	285	5.22	.07
AFFIL	345	308	281	9.15	.01

NS: Non-Significant

* Mean of the ranks of the scale score for Kruskal-Wallis Test.

TABLE VII
USE LEVEL - WHOLE SAMPLE

<u>SCALE</u>	<u>NN</u>	<u>LL</u>	<u>HH</u>	<u>UN</u>	<u>NU</u>	<u>CHI.SQ</u>	<u>P</u>
JOB	320*	323	251	300	276	9.73	.04
SOC	318	347	281	303	262	12.81	.01
BUD	315	347	273	287	284	7.64	.10
RAC	324	345	221	293	280	17.51	.001
PC	333	324	231	324	237	37.09	.0001
ORG	339	298	198	288	279	27.92	.0001
TRU	329	286	252	267	304	15.16	.004
COMBAT	320	335	264	305	265	12.31	.01
AFFIL	308	356	335	296	266	11.63	.02

* Mean of the ranks of the scale score for Kruskal-Wallis Test

TABLE VIII
PARALLEL USE - TANK COMMANDER AS TARGET

<u>SCALE</u>	<u>BU</u>	<u>NU</u>	<u>DU</u>	<u>CHI.SQ</u>	<u>P</u>
JOB					NS
SOC	90*	90	74	5.04	.08
BUD					NS
RAC					NS
PC	84	95	69	11.74	.002
ORG	81	91	74	5.37	.06
TRU					NS
COMBAT	71	92	73	6.72	.03
AFFIL	100	89	74	5.08	.07

NS: Non-Significant

* Mean of the ranks of the scale score for Kruskal-Wallis Test.

TABLES IX
USE LEVEL - TANK COMMANDER AS TARGET

<u>SCALE</u>	<u>NN</u>	<u>LL</u>	<u>HH**</u>	<u>UN</u>	<u>NU</u>	<u>CHI.SQ</u>	<u>P</u>
JOB							NS
SOC							NS
BUD							NS
RAC							NS
PC	95*	91	**	85	68	13.28	.01
ORG							NS
TRU							NS
COMBAT	92	81	**	88	72	8.92	.06
AFFIL							NS

NS: Non-significant

*: Mean of the ranks of the scale scores for Kruskal-Wallis Test

**: No data

TABLE X
SOCIAL COHESION AND PARALLEL DRUG USE PATTERN

	<u>OBSERVED</u>			
	BU	NU	DU	TOTAL
Hi AFFIL	33	87	91	211
Lo AFFIL	20	80	115	215
TOTAL	53	167	203	426

Chi-squared= 7.27 df= 2 p= .05

The following pattern was observed:

	BU	NU	DU
Hi AFFIL	+	+	-
Lo AFFIL	-	-	+

+ overrepresented cell
- underrepresented cell

TABLE XI

SOCIAL COHESION, DRUG USE SIMILARITY AND DEMOGRAPHIC COMMONALITY

<u>OBSERVED</u>	00	0S	1D	1S	2D	2S	3+D	3+S	
HI AFFIL	8	8	24	44	24	41	21	22	190
LO AFFIL	18	15	39	32	35	27	11	14	191
	26	21	63	76	59	68	32	36	N=381
	Chi-squared =21.37					df=7			p=.01
<u>PATTERN</u>	00	0S	1D	1S	2D	2S	3+D	3+S	
Hi	-	-	-	+	-	+	+	+	
Lo	+	+	+	-	+	-	-	-	

00 : No demographic commonality, drug use differs.
 0S : No demographic commonality, same drug use.
 1D : One demographic commonality, drug use differs.
 1S : One demographic commonality, same drug use.
 2D : Two demographic commonalities, drug use differs.
 2S : Two demographic commonalities, same drug use.
 3+D : Three or more demographic commonalities, drug use differs.
 3+S : Three or more demographic commonalities, same drug use.
 + : overrepresented cell.
 - : underrepresented cell.

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER WRAIR-NP-83-001	2. GOVT ACCESSION NO. 11-412605	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Impact of Drug Abuse on Tank Crew Cohesion		5. TYPE OF REPORT & PERIOD COVERED Technical Report
		6. PERFORMING CPT. REPORT NUMBER
7. AUTHOR(s) RON SMITH, Ed.D., CPT, MSC		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Walter Reed Army Institute of Research Walter Reed Army Medical Center Washington, D.C. 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 3E162777A879-041
11. CONTROLLING OFFICE NAME AND ADDRESS HQ, US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND FREDERICK, MD 21701		12. REPORT DATE August 1982
		13. NUMBER OF PAGES 49
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE NA
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Drug abuse, cohesion, organizational effectiveness, group dynamics, interpersonal attraction		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Data from 65 Army tank crews was analyzed to examine the impact drug use had on responses to questions designed to measure different sub-components of military cohesion. Analysis indicated that drug use pattern similarity or difference does influence soldier-to-soldier ratings on a variety of factor analytic scales.		

DATE
FILME